

## Regional Rail Steering Committee

Regional Rail Project Offices  
Kaiser Building, 300 Lakeside Drive, 16<sup>th</sup> Floor  
Wednesday, October 5, 2005  
1:30 p.m. – 3:30 p.m.

### Agenda

#### Meeting Objectives:

- To solicit input on the technical work program and outreach plan
- To receive updates on California High-Speed Rail Authority's efforts and MTC/CHSRA High-Speed Rail Ridership & Revenue Forecasting Study
- To initiate discussion on system issues, initial alternatives and screening criteria

- I. **Welcome & Self-Introductions** (Doug Kimsey, MTC)
  - a. Meeting Purpose & Agenda Overview
  - b. Consent: Draft June 8, 2005 Minutes and Advisory Group Description
- II. **Review of Regional Rail Plan's Detailed Work Plan & Schedule** (Brent Ogden, Earth Tech/Korve Team)
  - a. Detailed Work Plan & Schedule
  - b. Charrettes
- III. **Briefing on CHSRA's Efforts and Bay Area to Central Valley EIR/EIS** (Dan Leavitt, CHSRA)
- IV. **Briefing on Bay Area/California High-Speed Rail Ridership & Revenue Forecasting Study** (Chuck Purvis, MTC & Ron West, Cambridge Systematics)
- V. **Discussion of System Issues, Initial Alternatives & Screening Criteria** (Brent Ogden, Earth Tech/Korve Team)
- VI. **Review of Round One Outreach Plan & Schedule** (Daniel Iacofano, MIG)
- VII. **Wrap-up and Next Steps** (Doug Kimsey, MTC)
  - a. Proposed Next Steering Committee Meeting:  
Wednesday, March 1, 1:30 pm – 3:30 pm

MTC Staff Liaison: Ashley Nguyen, [anguyen@mtc.ca.gov](mailto:anguyen@mtc.ca.gov), 510.817.5809

Project Website: [www.bayarearailplan.info](http://www.bayarearailplan.info)





## Regional Rail Steering Committee

### MEETING MINUTES

June 8<sup>th</sup>, 2005

The first meeting of the Bay Area Regional Rail Steering Committee meeting was called to order in the Regional Rail Project Offices, Kaiser Building, Oakland, California by BART Planning Department Manager Marianne Payne at 2:38 P.M.

### **INTRODUCTIONS**

#### PRESENT:

Marianne Payne, BART, Planning Department Manager  
Doug Kimsey, MTC, Planning Manager  
Ashley Nguyen, MTC, Senior Transportation Planner/Analyst  
Howard Goode, Caltrain, Project Manager  
Carrie Pourvahidi, California High-Speed Rail Authority, Deputy Director (for Dan Leavitt)

Michael Bertizhoff, Port of Oakland  
Steve Gregory, Port of Oakland, Senior Strategic Planner  
Kevin Connolly, Santa Clara Valley Transportation Authority  
Frank Sharpless, Santa Clara Valley Transportation Authority, Government Affairs Manager/State & Regional  
Liz Wiecha, Transbay Joint Powers Authority, Deputy Director – Chief Engineer  
Dan Christians, Solano Transportation Authority, Asst. Exec. Director/Director of Planning  
Gene Skoropowski, Capitol Corridor Joint Powers, Managing Director  
Steve Shelton, AMTRAK, District Superintendent – Pacific Division  
Rebecca Long, Metropolitan Transportation Commission  
Ezra Rapport, Office of Senator Don Perata  
Jean Finney, Caltrans, District Office Chief  
John Nemeth, BART/SMART

#### **Project Consultants/Support Team**

Tom Mattoff (LTK)  
Daniel Iacofano, MIG, Inc.  
John Cook, MIG  
Katherine Balk, BART Planning

## **WELCOMING REMARKS**

Marianne Payne welcomed participants to the meeting and began the introductions. Ms. Payne also reviewed the meeting objectives; to initiate the Bay Area Regional Rail Planning Process, to convene the inaugural Steering Committee meeting and to obtain initial input from the Steering Committee.

## **PROJECT OVERVIEW**

### **Legislative Purpose**

MTC Project Manager Doug Kismey reviewed the Legislative Purpose behind the Regional Rail Plan (attached document). He highlighted how the plan knits all studies together and when completed will be the Bay Area's first truly Regional Rail Plan since the 1950s BART studies. Mr. Kimsey also reviewed that the funding for the project came from the RM2 bill and that the legislation asked for short, medium and long-term improvement goals to be decided upon by July 1, 2006.

He then proposed the following legislative changes recommended by the Project Management Team (see attached document):

- Combined Project Management efforts from MTC, BART, HSR and CalTrain
- Steering Committee should not be a voting body, but rather ruled by consensus
- Make all Congestion Management Agencies a part of the Steering Committee
- Use Regional Rail Plan to narrow down the High-Speed Rail alternatives

Mr. Kimsey also informed the Steering Committee that the Project Management Team put together three MOUs which are now circulating with existing PMTA Agencies.

### **Comments/Questions:**

Dan Christians from STA inquired about the time frames for the Regional Rail Plan.

Mr. Kimsey responded that short, medium and long-terms should be examined, as the proposals established through this study will be part of the next generation of extension. He also requested that Steering Committee members recommend any project that they might feel are currently missing but should be brought into the study.

Liz Wiecha of TJPA proposed adding TJPA to the Steering Committee. Doug Kimsey called for the Steering Committee's approval. Approved without objection.

Ms. Wiecha stated that the Transbay Terminal seems to be absent from the list but is included in Resolution 3434.

Mr. Kimsey pointed out that this is how the legislation was originally written.

Rebecca Long called the Committee's attention to the strike-thru on Item 11 of the Proposed Revisions to Streets and Highways Code Section 30914.5 (f)

Ms. Long reported that they are trying to get legislation into an omnibus bill, but there is some objection from the Republican caucus. The short-term solution is to get a letter from Senator Perata to help move project forward.

### **Conceptual Workslope**

LTK consultant Tom Matoff briefly reviewed the conceptual workslope used in the RFPs (see attached PowerPoint presentation). Mr. Matoff pointed out that the long-term timeline uses 3434 projects as a base.

### **Discussion of Project Goals and Desired Outcomes**

Daniel Iacofono from Moore, Iacofano, Goltsman, Inc. (MIG) opened the floor up for discussion.

Gene Skoropowski, Capitol Corridor Joint Powers Authority, emphasized the importance of preserving the rail right-of-way. He stated that the committee should not preclude potential of obtaining additional right-of-way for dedicated purposes. Mr. Skoropowski also pointed out that the Port of Oakland may be so successful that freight may require significant additional capacity.

Tom Matoff of LTK noted out that semi-abandoned or abandoned lines might become viable options to explore.

Howard Goode referred to the inclusive language in Ref 7 of the Legislation which reads, "Recommendation of strategies to acquire right-of-way and station property to preserve future service options."

Mr. Skoropowski emphasized the importance of acquiring right-of-way for the future. Ms. Long noted that the authorizing legislation language says the Plan should look to "acquire" right-of-way.

Ezra Rapport confirmed that the language of the legislation was written with the intent to include preserving and acquiring right-of-way.

Kevin Connelly of VTA referred to Ref 10 of Legislation which talks about "additional technologies." He suggested that the committee may want to look at BRT.

Tom Matoff of LTK pointed out that the workslope is currently focused on rail, but it also assumes that the Committee will also look at bringing transit to new and existing rail nodes.

Mr. Connelly suggested using a corridor approach.

Ezra Rapport clarified that it was intended to apply as service expansion of a Regional Rail program and that there are potentially lower cost means of bring transit to rail nodes.

Doug Kimsey commented on the 580 Corridor – BART to Livermore was a Resolution 3434 project, but has since been modified to HOV lanes and express buses.

Mr. Connolly raised concerns about boundaries. He also mentioned the long-running dream of rail and/or BRT in San Jose.

Mr. Matoff recognized it was omitted in error and could change in Stage 1 of the Workslope process.

Ms. Wiecha raised the question of 3434 projects and time frames. She questioned at what point we will see what projects in 3434 are folded into the different time frames. For example: CalTrain electrification, service to Gilroy & Regional Rail. Mr. Kimsey stated that the Regional Rail Steering Committee will not revisit 3434, instead Regional Rail will assume 3434 projects as a baseline and look beyond. The Regional Rail Plan will look at the financially constrained portion of the RTP. Beyond 3434 there are not many other Rail Expansions in RTP. It's the Project Management Team's hope that the Regional Rail study will go beyond RTP update.

Ms. Long stated that if the projection is long-term it will be less certain, but if it is in 3434, it is assumed to be happening.

Ms. Wiecha brought up that she spoke with Cambridge Systematics; they were not very clear what the Rail Transit network was going to look like. It appears to be within in 3 horizons, due to looking at 3 different slices of Resolution 3434. Ms. Wiecha stated that clarification of what are considered long and short-term goals is important – it's a question of priority in assigning projects to terms.

Mr. Rapport noted that the study wasn't intended to be at the level of an integrated financial plan and that 3434 was incorporated for financial purposes. Rather, the Regional Rail Plan was intended to be a planning exercise rather than a governance document. He believes this is the first big step toward how an integrated approach could work. It would also include a phasing approach. The Steering Committee can help provide the parameters that would advance the issues. For this reason, every agency should be candid about timeframes for their potential projects.

Dan Christians emphasized that right-of-way exists to connect North Bay to Capital Corridor and that it is crucial to look at connections that are possible with the WTA.

Steve Shelton of AMTRAK suggested that it is key to maintain right-of-way for freight and passenger rail, even though conflicts are possible.

Michael Beritzhoff from the Port of Oakland added that freight rail has the same concern as passenger rail – need for capacity and need to keep schedules. The Port anticipates much growth in freight everywhere, including the Bay Area. Mr. Rapport asked if they saw evening uses for freight being a possible solution. Mr. Beritzhoff replied that off-peak use is certainly worth looking at. He also pointed out that truck traffic on roads impacts everyone negatively. The Port is looking at options to have an Alameda Corridor type project.

Mr. Skoropowski identified the invisible element – when train usage is up, it leads to an increased need for maintenance and that the cost of maintenance is cheapest at night.

Mr. Iacofano concluded that consultants need to look at the maintenance as a capacity limiting process.

Mr. Shelton added that as a passenger rail operator, AMTRAK would like to see any expansion. He also stated that dedicated right-of-way for passengers seemed like the only solution, adding that they are close to capacity on BNSF and Union Pacific now.

Mr. Connolly noted that he shared the same concerns regarding capacity. He feels that rail is an underutilized resource and that it should be a goal to make it a more attractive mode of transportation for commuters. He also emphasized the need to research ways to appeal to commuters such as making rail faster, more comfortable, and more viable.

Ms. Wiecha questioned revenue and ridership forecasts. She stated that it is not clear where these components are generated for anything other than High Speed Rail.

Mr. Kimsey responded by telling her that it is focused on HSR, however local networks will be developed with the Steering Committee's direction and integrated with proposed HSR alignments.

Ms. Wiecha then questioned if Cambridge would develop ridership established for both High-Speed Rail and Regional Rail.

Mr. Kimsey confirmed that ridership would be developed for both.

Jean Finney noted that Caltrans was very interested in points of access and connectivity between nodes.

## **PROCESS ORIENTATION**

### **Roles and Responsibilities**

Howard Goode, Caltran Project Manager, stated that the Regional Rail Plan must be more than a planning exercise. It should be a long-term guide for decision making in Bay Area transportation.

He also explained that part of the Steering Committee role is to identify both funding sources and actions.

Mr. Goode added that the term “policy guidance” was used to emphasize the fact that the Steering Committee is a staff group with linkages to boards of different agencies, and that this would be most productively used to gain a unanimous buy-in to the process and product identified by the Regional Rail Plan. Mr. Goode anticipated that the means of the plan would become a roadmap and resource for MTC and other partner agencies.

### **Meeting Protocols**

Mr. Goode stated that the Project Management Team proposed that the Steering Committee meet quarterly; the first order of business at the next meeting would be to review/refine the consultants’ work scope.

The Advisory Group, Mr. Goode reported, was not mentioned in the enabling legislation, but was an addition that the Project Management Team believed would be helpful. Its purpose is to reach out to individuals with particular expertise.

### **Steering Committee Discussion**

Frank Sharpless, Government Affairs Manager/State & Regional for VTA, proposed that before the Advisory Group is selected it would be good to more clearly define what the objectives of this group should be. He also added that he would like to see geographic balance on the Advisory Group and no members on both the Advisory Group and the Steering Committee. Finally, Mr. Sharpless recommended Silicon Valley Leadership to the group.

Mr. Iacofano raised the question of if the Advisory Committee was conceived as being more technical and analytical in nature, rather than representative of different interests.

Mr. Kimsey responded that Henry Gardner, Executive Director of ABAG, was chosen for a Government perspective. Jim Wunderman, President & CEO of Bay Area Council, was selected for his business perspective. Mr. Kimsey agreed with Mr. Sharpless that it made sense to add the Silicon Valley Leadership Group to the Advisory Group.

Mr. Iacofano inquired if Mr. Sharpless had any individuals he’d recommend for the group.

Mr. Sharpless suggested Carl Guardino from the Silicon Valley Leadership Group.

Mr. Skoropowski wondered if any freight groups should be included as well.

### **Brown Act Briefing**

Mr. Kimsey highlighted the Brown Act for the Steering Committee, specifically mentioning the following:

- Meetings must be noticed 72 hours in advance
- Minutes must be taken

Mr. Kimsey then requested that the Steering Committee think about the possibility of appointing a Chair to the committee.

Mr. Goode suggested that MTC should chair the committee, specifically Doug Kimsey from MTC. The Steering Committee unanimously agreed.

### **Steering Committee Discussion**

Mr. Sharpless wondered if the Project Management Team could develop a paragraph describing the Advisory Group's function for the Steering Committee. The Project Management Team agreed to provide before the next Steering Committee meeting.

Mr. Iacofano suggested the need to get the "push" aspect of the Regional Rail website up and running.

### **Public Comment**

There were no comments from the public.

### **Wrap-up and Next Steps**

The next Regional Rail Steering Committee Meeting was scheduled for:  
Wednesday, September 14, 2:30 pm – 4:30 pm.

### **Adjournment**

The meeting of the Regional Rail Steering Committee adjourned at 4:30 pm to Wednesday, September 14, 2005 at 2:30 pm.



## **Regional Rail Plan Advisory Group Role**

The purpose of the Advisory Group is to advise the Steering Committee and Project Management Team on various technical aspects of the Regional Rail Plan development. The Advisory Group should be a geographically diverse group that has expertise in areas not necessarily represented on the Steering Committee, Project Management Team or consultant teams. The Advisory Group areas of expertise would include, but not be limited to: transportation research - particularly in the transportation/land use arena, stakeholder advocacy groups, city/county government and local business concerns.

The Advisory Group main tasks will be to:

- (1) review and comment on project work scope, technical memoranda, and other study materials
- (2) provide input on specific technical and policy matters as requested by the Steering Committee and Project Management Team.

Suggested Advisory Group members include:

Robert Cervero – UCB – transportation/land use research  
Betty Deakin – UCB – transportation research  
Henry Gardner – ABAG – cities/counties  
Eddy Moore – PCL – stakeholder advocacy  
Jim Wunderman – BAC – business (north)  
Carl Guardino – SVLG – business (south)



## TASK 1: PROJECT INITIATION

### **SUBTASK 1A – DETAILED WORK PROGRAM, PROJECT SCHEDULE AND MANAGEMENT PLAN**

#### ***Purpose:***

The purpose of the work program is to develop a work process that is fully coordinated and agreed to by the various stakeholders. Development and proper management of the work program and schedule will assure timely completion of the work tasks. The Regional Rail Plan must be completed in a timely manner to provide input to the voters on the Ballot measures regarding the High-Speed Rail Proposal and others.

#### ***Approach:***

The Team will review and complete the development of the work program and schedule within 10 days of receipt of authorization. A preliminary schedule is attached outlining our proposed effort and the inter-relationship of the tasks. During the kickoff meeting the Team will establish the:

- Project objectives, work program and schedule
- Management procedures; invoicing, progress reports and identification of issues
- Coordination with internal and external stakeholders and the other on-going related studies.

The Team propose to have regular meetings with the Program Manager to review our work plan, progress and any problem areas or issues. Problem areas or issues will be recorded in an issues log with a responsible individual identified along with an action list and resolution date for each issue.

The Team will work with the Project Management Team to establish working relationships with MTC, BART, Caltrain and CHSRA along with the panel of experts and the regional rail advisory committee. Timely communication is always a key to good working relationships.

To assist in preparing the initial list of alternatives the Team will propose to the Management Team that the Team form working groups to help with this alternative development. The Team will propose to establish several levels of working groups;

- Individual working level with each agency and interest group
- Combined agency group
- Expert panel and advisory committee



- Internal Team working group with senior Bay Area and international staff

The Team will meet in individual working groups with each of the agencies and public interest groups to generate ideas and concepts for the Regional Rail Plan. The Team will prepare initial maps summarizing some of the previously proposed concepts to get the “ball rolling”. After meeting individually with each agency and interest group the Team will prepare a master list of all alternatives for review by the combined agency group. The advice of the expert panel will be actively sought out throughout this process.

The Team propose to meet with the Project Management Team, the combined agency working group and the Advisory Committee on a regular basis. The Team will inform them of our progress, preliminary findings and seek input and guidance to the Regional Rail Plan.

### **SUBTASK 1B – RELATED STUDIES**

#### ***Purpose:***

The Regional Rail Plan will be developed concurrently with the following four related studies:

- Bay Area / California High-Speed Rail Ridership and Revenue Forecasting Study
- Regional Measure 2 Transit Connectivity Plan
- Railroad System Capacity Analysis Studies
- Bay Area Transit-Oriented Development Study

There are on-going corridor studies being performed in various areas of the Bay Area that this Team will coordinate with.

#### ***Approach:***

The Team intends to pro-actively interact with each of these parallel efforts and has developed a management plan to maximize the integration and mutual benefits of these other efforts. It should be noted that the specific technical efforts necessary to interact and incorporate the results of these other studies are included within the work scopes of the land use assessment, patronage estimation, and rail capacity task. Therefore, the budget allocated to this task would be for the purpose of study coordination and liaison meetings only. Specific coordination activity for each study is identified below:

#### **Bay Area / California High-Speed Rail Ridership and Revenue Forecasting Study:**

This effort will be developing networks and trip tables for 2030, 2040 and 2050. For



the purpose of the Regional Rail effort, the 2050 trip table will be the most relevant. The details of the Earth Tech scope are described separately in the Subtask 4.b description. The overview of our approach is that the Team intends to use Cambridge Systematics (CS) modeling effort as an input to our process. The Team will obtain the networks and trip tables from CS and will conduct a peer review on the modeling as delivered. Subsequently, the Team will revise the networks to reflect the most promising scenarios that will be evaluated as part of the detailed planning analysis effort following the initial screening. The revised networks will then be run on the model for patronage evaluation purposes. It should be noted that CS has informed Earth Tech that the trip tables will not be available until January 2006. The detailed work plan will address the schedule impact of this key input availability and specific management actions.

**Regional Measure 2 (RM2) Transit Connectivity Plan:** The RM2 Transit Connectivity Plan is looking at transit “hubs” within the Bay Area and is identifying measures to improve transit connectivity. According to the contractor, Wilbur Smith Associates (WSA), the effort is to be complete by the end of 2005. As such, this effort would provide input describing some of the transit infrastructure and key intermodal nodes which would be further studied as part of the Regional Rail plan development. It should be noted that WSA has indicated that they are not addressing some of the major intermodal hubs for which separate significant studies have been accomplished or are underway (e.g., Transbay Terminal, Vallejo Transit Center, Napa Transit Center, Union City). Accordingly, the Team’s work approach will to also provide coordination to obtain the most up-to-date information on these other transit hubs. Several of these projects are internal to the Team making coordination simple.

**Railroad System Capacity Analysis Studies:** The most significant interaction will occur with Washington Group International (WGI) which is operating the Berkeley rail simulation model. According to WGI, most of the work effort to date has been in looking near to mid-term at the impacts of various proposed corridor rail expansions affecting the lines of the Union Pacific Railroad (UPRR), most relevant of which would be the proposed Capitol Corridor stations, infrastructure improvements and service increases along the lines between Sacramento and Salinas. WGI has also looked at the Altamont Commuter Express (ACE) impacts as well as the proposed Dumbarton Commuter Rail service. WGI also indicated it will expand the network to provide representations for the Burlington Northern Santa Fe (BNSF) lines which would be included in the Regional Rail plan.

According to WGI, their work to date has developed a future year freight scenario with train frequencies modeled by train type (e.g., intermodal, unit train, manifest freight, etc.) with economic forecasting used to develop indicators for train growth by train type. For the purpose of the Regional Rail plan, it will be necessary to conduct additional studies of long-range economic forecasts. In addition, it will be necessary to consider the possibility of major changes in the



way freight is handled, taking into account, for example, proposals to develop inland ports similar to the proposal by Port of Oakland to use the UPRR Mococo line for staging of intermodal traffic which would potentially conflict with the BART proposal to use that same line for a Diesel Multiple Unit (DMU) commuter extension to the Baypoint line. Shared use of a split ROW is a consideration.

The specifics of the proposed approach are addressed as part of Subtask 4j, however the overview of the approach is that the Team will review all of the networks and model results to date; the Team will develop long range economic forecasting and consider alternative future freight network scenarios, and will then test the most promising Regional Rail services involving Federal Railroad Administration (FRA) compliant vehicles that would interact either with existing or future freight services. For non-compliant vehicles Earth Tech will work with the management Team to work out acceptable operating assumptions. Earth Tech will specify at the onset of the detailed analysis tasks the number and types of scenarios to be studied. For each scenario, Earth Tech would identify potential capacity improvements necessary to meet the aggregate demand. An iterative process would be used with WGI in which the modeling outputs would be reviewed and potentially higher levels of infrastructure investment would be tested in order to meet the combined corridor demand level.

**Bay Area Transit-Oriented Development (TOD) Study:** The MTC TOD study is intended to assess the benefits of, barriers to TOD and to help MTC refine its policies in support of Bay Area TOD's, specifically as it relates to the requirements of Resolution 3434 in which supportive land use policies are an evaluation criteria for funding regional transit improvements. Additionally, the TOD study is identifying a "Best Case TOD" land use and a companion evaluation of the potential beneficial transit patronage impact of such a land use. As such, the TOD study directly feeds into the Regional Rail work plan with respect to review and formulation of potential future land use plans. In addition, the Regional Rail plan, by virtue of considering a long range, Year 2050 land use and also incorporating any relevant inputs from the WSA RM2 integration effort, will test the TOD impact over a much longer horizon. The specifics of this analysis will be incorporated in the patronage forecasting effort described in Subtask 4.b.

The initial study work plan will indicate approximate coordination milestones for these concurrent efforts; the Detailed Work plan will assign calendar-specific proposed dates for coordination points. Finally, after the initial screening has been accomplished and the most promising scenarios have been identified for detailed analysis, the work plan will be updated to reflect actual schedule status for all of the related efforts.



## **SUBTASK 1C – FORMATS AND SOFTWARE**

### ***Purpose:***

Provide deliverables in a format suitable to the project Team.

### ***Approach:***

The Team will provide the requested formats as required.

- Documents – MS Word; Times New Roman, 12 point
- Text Illustrations – TIFF or JPEG.
- Maps – ESRI's ArcGis
- Aerials – Digital Orthophotoquads (DOQs) in .tif, .xml, .txt, or .tfw format
- Engineering data – AutoCAD 2004, produced as 11x17 sheets
- Project Scheduling – MS Project

### ***Task 1 Deliverable:***

The Team will deliver the Project Management Plan, Schedule and Detailed Work Program in accordance with the above approach. All deliverables will be made in an electronic format in accordance with the software described in Subtask 1c and posted to the project website as set up by the Program Management Team.

## **TASK 2: NETWORK ALTERNATIVES AND SCREENING CRITERIA**

### **SUBTASK 2A – INITIAL LIST OF NETWORK ALTERNATIVES**

#### ***Purpose:***

The initial list of alternatives will consider the universe of concepts based on input from the public agencies, advocacy groups, public interest groups, the general public and our Team of planners and engineers.

#### ***Approach:***

For the purpose of developing the Regional Rail plan, the Team would start with the existing infrastructure as well as planned projects which could be reasonably be



delivered over the study horizon. Specifically, the Team would develop a base network to include existing infrastructure, planned projects indicated in the financially constrained Transportation 2030 Plan, and potential future projects identified in the financially unconstrained ("vision") element of the Transportation 2030 Plan. All projects would be individually reviewed with the study advisory committee to confirm their relevance to the Regional Rail planning effort.

The Team will establish working groups with all the various agencies and interest groups as discussed under Task 1a to develop this list of Initial Alternatives. The Team will form an internal working group with senior Bay Area and international staff to develop our own list of potential alternatives based on our combined experiences.

The Team will address the issues of compliant vs non-compliant vehicles, high vs low level platforms, joint use operation of freight and passenger trains among other. The Team will consider each of the primary constituent rail services, including railroad-based services, regional rapid transit services, extensions of rail or transit services, and high-speed rail, as identified in the RFP, both individually as well as jointly in developing options for inclusion in the Regional Rail plan. Considerations will include not only the rail services themselves but integration of these services into other transportation modes, principally bus transit services, but also with consideration to carpool / park 'n ride facilities, and competing auto routes as well.

The Team will examine travel patterns on a corridor-by-corridor basis. Taking into consideration the existing level of rail / transit investments in various corridors, the Team will identify, based upon input from involved study participants as well as our own staff resources, service expansion concepts and compatible, consistent technologies to provide such services. These service concepts would define the following attributes of service:

#### Service Concept Description

- Terminal Station Options
- Alignment and Alignment Options
- Stations and Intermodal Facilities
- Key Operating Plan Attributes
- Candidate Technologies

From the service concepts, corridors/alignments and stations/intermodal hubs, the Team will identify candidate improvements potentially necessary and desirable in a long-range rail plan to support the service concepts. Bearing in mind the various horizon years, the Team would identify a wide range of improvement options drawing, as noted above, both on input from various outside groups as well as elements from a menu of



options the Team would develop as a first step in the effort. Examples of menu items would include:

Station and Operational Improvements

- Connectivity among transit systems
- Reconfiguration of Stations and Intermodal Terminals
- Improved Signaling

Access Improvements

- New or Expanded Feeder Transit Service
- New or Expanded Park 'n Ride

Speed and Service Improvements

- Track Realignment
- Grade Separations
- Roadbed Reconstruction

Capacity Improvements

- Central Train Controls
- Passing Trackage
- Double / Triple / Quadruple Tracking
- Improved Junctions
- Expanded Yard and Maintenance Facility Capacity

System Expansion

- Major Upgrade of Existing Freight Corridor for Passenger Service
- Extension of Existing Line
- New Rail Corridors

System Preservation

- Acquisition of Lines and Rights-of-Way for Future Use
- Potential for Advanced Preservation of Threatened Rights-of-Way





System Enhancement / Compatible Use

- Transit Oriented Development
- Compatible Land Use Policies

In addition to building upon the existing and planned rail networks, improvement options should be informed by economic and demographic assumptions. For the purpose of the Regional Rail planning effort, the freight logistics, land use, and economic outlooks are key areas of concern.

**Freight Logistics:** In order to assure that the Regional Rail plan is developed robustly with respect to the economically essential Bay Area goods movements, the Team will draw upon its own resources and will interface pro-actively with major freight generators such as the Port of Oakland as well as the freight railroads to develop a range of future freight operating scenarios to provide a context for proposed rail improvements. The Team will estimate freight movement growths and issues associated with the Port of Oakland and other major generators, and will develop short-, mid- and long-term outlooks for railroad goods movements within the reach of the regional rail network. A complementary look at short-term expansion and infrastructure plans of private sector railroads, plus their institutional/legal issues will be identified.

**Land Use:** The Team will review the existing and ongoing "Smart Growth" and Transit Oriented Design (TOD) planning efforts by ABAG and MTC and will identify maximum credible concentrations of transit-supportive land use which may drive ridership of candidate transit stations and terminals using TOD concepts. The Team will provide an overview of the land use growth trends within the 12-county greater Bay Area region affected by the Regional Rail Plan. Specifically, the Team will review baseline forecasts of population, employment, income, age distribution, and other variables relevant to transportation planning over the 50-year time frame associated with this study. The forecast will be based on a synthesis of current or on-going work conducted by other entities or as part of related study efforts, including applicable councils of governments, the State Department of Finance, and private-sector forecasting organizations. In addition, interviews with key land use stakeholders, such as major private developers will be conducted to ensure consistency with the forecasts and to provide additional insight into the future land use patterns.

**Economics:** In parallel with the land use forecasts, the Team will review and assess the economic and demographic assumptions and forecasts developed or relied upon as part of related study efforts, such as the ABAG forecasts, as well as the overall Smart Growth socio-economic data. As the economic outlook for the region will be driven by the existing and anticipated future land uses (such as new residential and commercial centers) and may be constrained by the ability of the Port of Oakland to process goods, this evaluation will need to be



performed in conjunction with the other studies. In addition, interviews with major real estate developers will be held to solicit input on the Regional Rail Plan, in addition to general market conditions.

**Subtask 2a Deliverable:**

The Team will prepare White Papers for:

- Economic Outlook (Deliverable 2a.1)
- Land Use Outlook (Deliverable 2a.2)
- Freight Logistics Outlook (Deliverable 2a.3)

The Team will prepare a Technical Memorandum that will summarize the service concepts, alignments, stations and candidate technologies for network alternatives for consideration inclusion in the Regional Rail planning process. The report will contain illustrations delineating the alignments, stations and services as initially described. The Team will also capture other comments and input into the planning process including comments on land use policies, supportive development and other concerns that have arisen through the process of input gathering on this task, such as the preservation of threatened rights-of-way.

Documentation of the High-Speed Rail alignment options over the Altamont Pass.

**SUBTASK 2B – SCREENING CRITERIA FOR NETWORK ALTERNATIVES**

***Purpose:***

The purpose of this task is to develop screening criteria to enable a full evaluation of the Initial Network Alternatives. The criteria will reflect overriding goals and objectives of the myriad stakeholders in the rail planning arena, including both users and operators.

***Approach:***

The Team will develop preliminary evaluation criteria in consultation with the stakeholders in the region, as represented by the Regional Rail Steering Committee, the Project Management Team, and the Advisory Group. The criteria will take into account the goals and objectives of these stakeholder agencies and individuals. As a starting point, the Team will discuss with the stakeholders some overriding principals – namely the Alternatives should be viewed and evaluated in terms of their:

- Cost-effectiveness – ridership and travel time savings related to overall capital and operating costs
- Ability to be implemented both in the long term and incrementally



- Transit connectivity and convenience to the user
- Effects on the regional economy, including relationship of rail services to land use plans and intensity.
- Ability to effectively move passengers and freight and maintain adequate regional rail capacity.
- Overall environmental effects – beneficial and adverse– including environmental justice.

The criteria will be developed in a manner that is easily understood and that assists the evaluators in their understanding of critical network characteristics, i.e., how a network would perform for a particular criterion. A sample format for the criteria matrix is provided in the following table. The preliminary criteria provided in this sample table are not meant to be exhaustive but are rather intended to show how the Team proposes to array the evaluation criteria and their application. MTC has already established project-screening criteria, which have been used to implement Resolution 3434 for regional transit expansion priorities and these will be part of the screening process.

The final detailed measurements and factors to be included in the matrix cells will be further refined through consultation with the Project Management Team and Consultant during Task 1 – the development of the Project Work Program, and then reviewed in full with the Regional Rail Steering Committee, the Project Management Team, and the Advisory Group.

The methodology proposed for application of the evaluation criteria for the Regional Rail Plan Alternatives criteria is discussed below.

**Ridership/Revenue:** As part of the ridership/revenue evaluation, the Team proposes to coordinate with MTC's Demand Forecasting Study as follows:

- The Team will specify origin/destination (O/D) pairs that would potentially be served by the Initial List of Network alternatives. These would include O/D pairs for trips within the Bay Area as well as commute trips from the Central Valley to the Bay Area, and intercity trips with relevant Bay Area destinations or origins.
- The Team will review the list with the staff of the Demand Forecasting Study to ensure that trips tables to be utilized for the regional rail study would have sufficient level of detail to address the desired O/D pairs. The coordination will include requests for the trip tables to be produced by the trip purposes relevant to the alternatives being screened, e.g., commute, business, or pleasure.



# San Francisco Bay Area Regional Rail Plan Draft Final Detailed Work Plan

Sample Evaluation Criteria					
Objective	Regional Rail Network				
	Network 1	Network 2	Network 3	Network 4	Network 5
Maximize Ridership / Revenue Potential	1  Slowest travel times between major destinations Additional rail stations at WWW, XXX, YYY, ZZZ	3  Faster travel times between major destinations Additional rail stations at WWW, XXX, YYY	3  Faster travel times between major destinations Additional rail stations at WWW, XXX, YYY	4  Fastest travel times between major destinations Additional rail stations at WWW, XXX, YYY	4  Fastest travel times between major destinations Additional rail stations at WWW, XXX, YYY
Maximize Rail Transit Connectivity & Accessibility	4  Makes use of existing station facilities at WWW, XXX, YYY, ZZZ Provides Rail Transit Transfers at AAA, BBB, CCC, DDD	3  Makes use of existing station facilities at XXX, YYY, ZZZ Provides Rail Transit Transfers at AAA, BBB, CCC, DDD	3  Makes use of existing station facilities at XXX, YYY, ZZZ Provides Rail Transit Transfers at AAA, BBB, CCC, DDD	2  Makes use of existing station facilities at YYY, ZZZ Provides Rail Transit Transfers at AAA, BBB, CCC, Service to LLL and MMM reduced	3  Makes use of existing station facilities at YYY, ZZZ Provides Rail Transit Transfers at AAA, BBB, CCC, DDD Service to MMM reduced
Minimize Operating & Capital Costs	2  Would have highest operating costs Represents highest capital costs	4  Would have higher operating costs Represents lower capital costs	3  Would have higher operating costs Involves higher capital costs	3  Would have higher operating costs Involves higher capital costs	5  Involves lowest operating costs Involves lowest capital costs
Minimize Impacts to Freight Service	4  Includes minimal amount of passenger-rail service conflicts YYY miles of conflict remain	3  Eliminates some passenger-rail service conflicts WWW miles of conflict remain	3  Includes some passenger-rail service conflicts WWW miles of conflict remain	2  Includes major amount of passenger-rail service conflicts ZZZ miles of conflict remain	5  Includes least amount of passenger-rail service conflicts XXX miles of conflict remain



## San Francisco Bay Area Regional Rail Plan Draft Final Detailed Work Plan

Maximize Service to and Promotion of Transit Oriented Development	5 Provides passenger service to most high density areas - existing/planned Includes strong Transit Oriented Development (TOD) plans and policies.	2 Provides passenger service to some high density areas - existing/planned Includes some Transit Oriented Development (TOD) plans and policies.	2 Provides passenger service to some high density areas - existing/planned Includes some Transit Oriented Development (TOD) plans and policies.	4 Provides passenger service to multiple high density areas - existing/planned Includes Transit Oriented Development (TOD) plans and policies.	1 Provides passenger service to fewest high density areas - existing/planned Includes fewest Transit Oriented Development (TOD) plans and policies.
Ability to Implement Plan in the Long-Term and Incrementally	5 Provides maximum flexibility for incremental plan implementation	2 Provides some flexibility for incremental plan implementation	2 Provides some flexibility for incremental plan implementation	4 Provides substantial flexibility for incremental plan implementation	1 Difficult to implement incrementally
Minimize Impacts to Natural Resources and low-income/minority areas	1 No apparent critical "fatal flaws" Critical impacts to sensitive habitat, water resources & floodplains at XXX, YYY, ZZZ Some disproportionate impacts to minority or low-income areas	4 No apparent critical "fatal flaws" Some impact to sensitive habitat, water resources & floodplains at XXX No disproportionate impacts to minority or low-income areas	2 No apparent critical "fatal flaws" Impacts to sensitive habitat, water resources & floodplains at YYY, ZZZ No disproportionate impacts to minority or low-income areas	2 No apparent critical "fatal flaws" Impacts to sensitive habitat, water resources & floodplains at YYY, ZZZ No disproportionate impacts to minority or low-income areas	5 No apparent critical "fatal flaws" Minimal impact to sensitive habitat, water resources & floodplains No disproportionate impacts to minority or low-income areas
1 → 2 → 3 → 4 → 5 Least Favorable → Most Favorable					

**Connectivity:** The Team will incorporate the findings of MTC's current "Regional Measure 2 Transit Connectivity Plan" as part of this evaluation. The number of locations and the general efficiency of rail transit connections will be evaluated for this criterion, including such factors as the number of transfer locations, the ease of access for the transfer, and the extent of assumed timed transfer options.

**Operating and Capital Costs:** The calculations and information developed in Task 4f will be used as input to this evaluation criterion. Lower capital and operating costs will receive a higher rating in the matrix.



**Freight Services:** The freight service impact evaluation will make use of the railroad system capacity analysis studies being done by the Washington Group International. Higher ratings will be provided for those options that minimize the conflicts – sharing of tracks – between freight and passenger rail operations. This freight-passenger rail conflict currently creates major constraints to commuter rail services in the region.

**Land Use / TOD:** MTC's current "Transit-Oriented Development Study" will be used as input to this criterion and its application. The evaluation will focus on the degree to which a rail system alternative supports more rail transit-friendly development and the extent to which transit oriented development (TOD) can be promoted by the regional rail system alternatives.

**Plan Implementation:** A critical consideration will be the overall ability to implement the plan, both in the long term and incrementally. Options and constraints related to institutional arrangements, corridor preservation options, system funding, and environmental resource impacts (e.g., possible permitting requirements) will all serve as input to this evaluation.

**Environmental Resources / Environmental Justice:** Information developed for Subtask 4m will be used to complete the evaluation for this criterion. Better ratings will be given to alternatives with fewer environmental impacts – fewer potential "fatal flaws."

**Quantum Evaluation:** For high-speed alignment alternatives, the screening methodology shall include employment of Quantum. Potential corridors will be identified for the Altamont Pass Alternative(s) for a high-speed rail alignment from the San Joaquin Valley into the Bay Area. The preliminary location/alignment for this high-speed rail alternative will be used as the starting point for this analysis. Other alignments proposed by proponents of the Altamont option will also be reviewed.

The alignment options for the more flat topography areas of the Central Valley will be assumed to make use of or be parallel to existing transportation corridors (highways or railroads). The potential location for crossing of the San Francisco Bay will also be considered, with particular attention to potential impacts to wetlands and wildlife refuge areas, i.e., the Don Edwards Wildlife Preserve, which is currently being expanded.

For the candidate crossings over the Altamont Pass, the Team will review USGS maps to identify and evaluate possible alignment options, generally between Tracy and Fremont. The beginning and end points will be defined by the options identified in the Central Valley, passing through the City of Fremont, and passing over the San Francisco Bay. Using the identified end points, the Team will evaluate and identify High-Speed alignment options over the Pass that would



minimize: (1) steep grades, (2) extended rail climbs, (3) tunneling, and (4) impacts to natural resources.

The Team will provide a detailed evaluation matrix for preliminary review and comment. Revisions will be made as appropriate for presentation to the Project Management Team. It is assumed that this review will include a two- to four-hour meeting with the Project Management Team focused on the review, edit, revision, and refinement of the evaluation matrix. It is assumed that the resulting evaluation criteria matrix will then be provided by the Project Management Team to the Regional Rail Committee and the Advisory Group for their review and comment. The Team will work with the MTC Consultant and the Project Management Team to respond to comments received from these groups and to refine the evaluation matrix into its final form for application to the Initial Alternatives.

**Subtask 2b Deliverable:**

Technical Memorandum on Screening Criteria and Methodology for Initial List of Alternatives

### **TASK 3: INITIAL SCREENING AND REFINEMENT OF NETWORK ALTERNATIVES**

#### **SUBTASK 3A – PERFORM INITIAL SCREENING**

***Purpose:***

The evaluation and screening of the Network Alternatives and formulation of a final set of “Study Alternatives”. Prepare detailed technical description of the alternatives.

***Approach:***

The screening criteria and screening methodology developed in Subtask 2b will be systematically applied to the initial list of rail network alternatives developed in Subtask 2a to develop a list of Study Alternatives on which further technical analysis will be performed. Currently, there are three potential high-speed rail alignment options:

- From the south through San Jose
- From the east connecting the San Joaquin Valley via the Altamont Pass
- No high-speed rail



The Study Alternatives will include two plans for each of the three high-speed rail options, for a total of six Study Alternatives.

**Subtask 3a Deliverable:**

A Technical Memorandum will be prepared which will document how the screening criteria were applied to the initial list of rail network alternatives. Each alternative will be ranked against the screening criteria. A threshold limit will be established that forms a minimum score for each option. The ranking will clearly establish the strengths of alternatives selected for further evaluation and weaknesses of alternatives recommended for removal from the list of Study Alternatives.

**SUBTASK 3B – DESCRIBE STUDY ALTERNATIVES**

**Purpose:**

The formulation of a final set of “Study Alternatives” and prepare detailed technical description of the alternatives.

**Approach:**

The Technical Memorandum will describe each of the Study Alternatives in the context of the overall network. The descriptions will include alignments, service concepts with example schedules over all regional rail links, vehicle concepts and alternatives, discussion of capacity issues and capacity sizing relative to the market analysis, station locations, constructability issues and other relevant aspects needed to provide a complete description.

The Draft Technical Memorandum will be provided to the participants in the Task 2 alternatives generation process for their review and comment. The Task 3 application of the screening methodology and presentation of results will be sufficiently complete and able to withstand public and policy-level scrutiny. At the conclusion of Task 3, the Study Alternatives will provide significant input in the preparation of the High-Speed Rail project environmental documentation.

**Subtask 3b Deliverable:**

A Technical Memorandum describing the two Study Alternatives that serve each of the three high-speed rail options for the Region. A detailed technical description will be included.





## TASK 4: TECHNICAL ANALYSIS OF STUDY ALTERNATIVES

### **SUBTASK 4A – DATA GATHERING**

#### ***Purpose:***

The purpose of this subtask is to develop a database describing the existing and planned regional rail system, including the condition, configuration, and traffic on the regional rail system.

#### ***Approach:***

The Team will evaluate and review the previous studies that have been assembled by the project management Team in the project library. The Team will incorporate all applicable studies into the Regional Rail Plan.

The consultant will review existing reports and data from sources including PCJPB, CCJPB, ACE, BART, VTA, STA, AMTRAK, SMART, UPRR, and BNSF on all segments relevant to the Alternatives. The information obtained in this review will be entered into a project database that describes the configuration, general condition, and the level of traffic on these rail segments.

The Team will establish a working relationship with the other on-going corridor studies to gather the latest input at critical stages of the project.

The Team will perform a high-level existing conditions report on the proposed corridors to be incorporated into the Regional Rail Plan. This report will include ROW assessment, track condition, capacity and existing traffic condition and a high-level structures overview. The configuration summary will include diagrams and maps of the segments as well as general descriptions of surrounding land uses, e.g., rural, industrial, suburban, or urban. The condition summary will define the class of track, signal system, speed limits, and general condition of the track infrastructure. The traffic summary will describe the number of passenger and freight trains by time period, the daily passenger volumes, and to the extent available freight volumes. To the extent practical from the source data and Consultant expertise, the traffic summary will also indicate the capacity restraints of the segments relative to the existing level of traffic.

These data will be summarized in a Technical Memorandum on the Condition, Configuration, and Traffic on the Existing Regional Rail System including the Study Alternatives.

#### **Subtask 4a Deliverable:**

Technical Memorandum on the Condition, Configuration, and Traffic on the Existing Regional Rail System including the Study Alternatives.



## **SUBTASK 4B – ALTERNATIVE EVALUATION**

### ***Purpose:***

Develop an order of magnitude cost estimate of the alternatives based on a conceptual level of engineering for all required facilities to provide a fully functioning rail system.

### ***Approach:***

The Team will evaluate and review the various alternatives to assure that they have sufficient capacity to provide the level of service required by the patronage forecasts. The initial alternatives were based on the initial patronage forecasts. The modified alternatives for this analysis will provide the input to revise the patronage forecasts to match.

Levels of service will be provided to the Washington Group including the proposed operating speed, and mix of traffic such as local passenger, intercity and HSR service and any remaining freight service on the corridor. A phasing plan will be included based on the long term vision and stepped back to the 5/10 year and 20/25 year plan. The Washington Group will provide to the Team an analysis showing the necessary track configuration to meet the alternative and its phasing plan.

The alternative rail system will be based on a system of high inter-connectivity to provide local interface service from the long distance high-speed rail service. The stations will be designed to provide this connectivity.

The Team will develop a maintenance service plan to include system efficiencies based on joint operations of maintenance facilities for the corridors.

The alternatives will be developed to a conceptual level to provide input to the capital cost estimate.

### **Subtask 4b Deliverable:**

A Technical Memorandum with appropriate engineering drawings showing the alternative and the required infrastructure for each alternative. An order of magnitude Capital cost estimate will be provided for each alternative.

## **SUBTASK 4C – MAJOR STRUCTURES**

### ***Purpose:***

Develop an order of magnitude cost estimate of the alternatives based on a conceptual level of engineering for all major structures crossing portions of the Bay and the environmental impact of these.



***Approach:***

The Team will develop a pre-conceptual design concept for these major water crossings. The Team members have been involved in recent Bay Area major water crossings and have similar experience on an international level with various types of structures; bridges, bored tunnels and sunken tubes. The Team have the technical expertise to provide the additional infrastructure for tunnels such as the ventilation structures.

The Team will identify major environmental concerns of these water crossings. The Team is presently involved in similar efforts and is well aware of the potential environmental impacts.

The Team will review the available geotechnical information for each alternative and include this in the structures evaluation.

**Subtask 4c Deliverable:**

A Technical Memorandum with appropriate engineering drawings showing the alternatives for these major water crossings and all the required infrastructure for each alternative. An order of magnitude capital cost estimate will be provided for each alternative.

**SUBTASK 4D – SIGNALS AND COMMUNICATION**

***Purpose:***

Prepare a signal and communication design that is flexible and upgradeable and consistent across all the passenger rail systems. Prepare an order of magnitude capital cost estimate for upgrading the signal system to a common design.

***Approach:***

Each alternative will be evaluated for the most practical and economical signal, communications and train control alternative, to an appropriate conceptual level of confidence.

**Railroad-Based Services:** The final alternatives will be assessed for general signal and communications system design consistency for the Union Pacific Railroad, Burlington Northern Railroad, Amtrak, Caltrain and local commuter rail systems.

The Team will review the existing signal technology in each of the proposed corridors and identify those corridor segments that need upgrading. The improvements on each signal system may include, but are not limited to:

- Basic signal system upgrades to:



- eliminate pole line that is subject to ongoing vandalism, resulting in train delays;
  - improve headway design for mixed mode operation, allowing effective passenger train movement within existing freight corridors; and
  - replace relay interlockings with flexible solid state interlockings that allow easy and effective system upgrade as capabilities are added.
- Upgrade of single track section(s) to double track to increase traffic flow, including upgrading existing Electro Logic 1, Microlok, VPI, VHLC or relay-based interlockings, or adding traffic transfer interlocking as required to upgrade system operation.
- Addition of powered switches for semi-automatic or CTC control of the additional switches, including control and indications required both locally and at remote CTC control sites.
- Addition of home, approach and intermediate signals along the new track wherever necessary to provide operation capability comparable to or better than the existing single line signals currently in use.
- Addition of over-run protection at interlockings can provide significant safety enhancement of the existing systems.
- Addition of track circuits necessary to provide complete switch and route protection, complete broken rail detection and train occupancy detection. Interlocking track circuits will employ DC or phase selective relay circuits. Intermediate track circuits will employ coded track circuits to eliminate wherever possible line-wire requirements along the right of way.
- Integration of new track control and indication into the existing CTC system wherever practical using the most economical approach which meets the operational needs, with consideration for additional capability wherever possible.
- Upgrade of existing highway grade crossing where necessary to maintain constant warning protection with highway signal preemption where necessary.
- Addition of data logging capabilities wherever required, or where installation could enhance maintenance capabilities at significant savings over the life of the installation.



**Regional Rapid Transit Services:** BART follows the recommendations of the American Railway Engineering and Maintenance-of-Way Association (AREMA), and subject to the regulations of the CaPUC.

**California High-Speed Rail System:** The Team will use signal and communication system cost that was developed for the CaHSR Bay Area segment. This will provide consistency among the routes being evaluated for the entry of high-speed rail into the Bay Area.

**Subtask 4d Deliverable:**

Technical memorandum outlining the proposed upgrades to the signal system required for each of the existing corridors and new systems required for any new corridors. An order of magnitude-type capital cost for each of the alternatives.

**SUBTASK 4E – ELECTRIFICATION**

***Purpose:***

Evaluate each of the proposed passenger and freight routes for potential electrification considering economic, operational and environmental issues.

***Approach:***

All identified Rail System alternatives will be studied from various aspects of the electrification system. If there is a need of change of an existing diesel locomotive to electrification system it will be included in the study. Analysis will consider projected electric power cost, projected impacts of diesel fuel cost, environmental issues and trends towards modern system using state of the art electrification equipment. Issues related to power supply system for the electrification system, impact on power utility service to provide required power at specific locations will be covered from conceptual engineering point of view. Examples of successful present operating similar electrification projects around the world will be cited for reference purposes. Electrification sensitivity analysis will be based upon various conceptual - level engineering factors and other site-specific considerations and constraints as follows:

- Initial and projected final expected costs of electrification system
- Initial and final costs of alternative diesel fuels
- California Power Grid – discussion of meeting rail electrification project power requirements.
- Development of the power system infrastructure to meet rail system power supply needs.



- Impact on local power supply grid and availability of required power
- Major electrification equipment and configuration
- Site specific constraints, need of required dedicated real estate
- Transit Oriented Development and rail electrification
- Environmental issues related to electrical or diesel locomotive; visual, air quality, noise among others

Like any other rail propulsion means, electrification system has its own challenges that must be fully identified and studied in this conceptual phase. This engineering evaluation and study will assure that all topics related to Rail Electrification System are fully outlined and discussed to assure a meaningful evaluation to make a narrow list of alternatives that should be further studied in the next phase of engineering evaluation.

Electrification system study sensitivity analysis will incorporate all other engineering issues or other specific elements that will be outlined by other engineering disciplines to be evaluated in relation to rail electrification system.

**Subtask 4e Deliverable:**

Technical memorandum consisting of conceptual design documents to include drawings, sketches, equipment type, and electrification system equipment configuration and required electrical control/switchgear buildings. Sensitivity analysis report with a brief discussion of the overall electrification system. A discussion on environmental issues such as noise, air quality and visual will be included. An order of magnitude-type capital cost for each of the alternatives.

**SUBTASK 4F – ENGINEERING AND OPERATIONAL IMPLICATIONS**

***Purpose:***

The purpose of this task is to prepare capital and operating costs estimates of the high-speed rail alignment and station location options, using engineering and evaluation criteria established by the California High-Speed Rail Authority.

In addition, this task will include the work effort necessary to develop the final engineering requirements for required railroad infrastructure to support rail-road based services with projected freight traffic levels along with commensurate capital and operating costs. In addition, the task will result in the development of initial services operating plans to be used as input to the updated MTC model for the purpose of performing the patronage and impact assessments.



***Approach:***

The Team shall develop and prepare capital and operating cost estimates of high-speed alignment and station location options, using engineering and evaluation criteria established by the California High-Speed Rail Authority. In carrying out this subtask, the Team shall include employment of Quantm; this tool will be used to assess up to 25 miles of high-speed rail alignment between the Bay Area and Central Valley.

Capital cost estimates will be prepared using the same methodology that was developed for the California High-Speed Rail program. Unit route-foot costs will be established for a complete range of guideway configurations, such as at-grade track, viaduct, tunnel, and type of station. Site-specific items such as earthwork and right of way in urban areas and unique structures such as the San Francisco Bay and Carquinez Strait crossings will be estimated separately, based on site-specific quantities and unit costs. Lengths will be calculated from the conceptual alignment plans. Widths will be estimated from typical sections. The estimate will be developed in segments that will allow alternative alignment combinations to be evaluated. The costs in each segment will be combined to develop a complete cost for each alternative alignment between common end points. Add-on costs will be calculated as percentages of the estimated costs. These costs will include design and construction contingencies, program implementation (planning, design, administration and construction management), insurance, start-up and project reserve (unallocated contingencies).

The Team will obtain from the High-Speed Rail Authority the operating model used for prior high-speed rail alignments across the state. The Team will apply the requisite inputs – the appropriate quantities, e.g., track miles and grades and assumed vehicle miles, based on assumed service levels and train consists – for calculation of the operating costs for the High-Speed Rail alternatives.

The Team will provide input to the Washington Group (WG) including freight and passenger operating scenarios and candidate rail infrastructure improvements to be used by WG in capacity simulations. The Team will refine the required infrastructure and capital cost estimate based upon the results of the simulation efforts by WG. The Team will prepare order-of-magnitude operating cost estimates for railroad-based services.

The Team will coordinate with Cambridge Systematics (CS) and will identify the regional rail services transit networks (including assumed initial operating plans) and/or land use data for regional rail plan alternatives to be incorporated by CS into the enhanced MTC model so that CS can provide Year 2050 estimates of transit ridership by corridor.

**Subtask 4f Deliverable:**

Capital and operating costs for the high-speed rail alignment and station location options.





Revised definition of railroad improvements needed to support railroad-based passenger services along with projected freight traffic levels, including refined capital costs and operating costs.

#### **SUBTASK 4G – COORDINATION OF PROPOSED INFRASTRUCTURE IMPROVEMENTS WITH CAPACITY ANALYSES**

***Purpose:***

Identify track capacity improvements for each of the proposed corridors considering existing and planned services in addition to the proposed service increases by this Regional Rail Study.

***Approach:***

The Team will be engaged in developing alternative engineering solutions given varying demand scenarios. These solutions will not be developed in a vacuum; the plans and expectations of operators, demographic trends, policies respecting the environment and economic development, etc. will be factored into needs requirements to which proposed improvements will be directed. In addition, MTC and other sponsoring agencies require a consistency of purpose among various parallel research efforts, the High-Speed Rail Demand Forecasting Study being of greatest relevance to the Regional Rail Plan.

The Team will undertake the engineering and design tasks of the planning process, specifically oriented to freight requirements in this subtask but integrated with passenger-oriented proposals. The Washington Group is independently providing capacity analyses of the region's rail infrastructure, employing a highly-regarded but extremely demanding simulation model which has also been used by the Consulting Team. The Capacity Analysts will, through the modeling process, determine if proposed infrastructure modifications would be effective given the projected workload under each scenario. A feedback loop must be established between the Team and the Washington Group to facilitate the latter's ability to accurately model operations and for the Team to be timely advised of the need for alterations in its plans.

Meetings will be held with freight operators and the Port of Oakland where in-depth discussions will be focused on operational requirements and corresponding infrastructure needs. Expectations with respect to traffic growth and composition, potential changes in equipment and consists characteristics will be reviewed.

This subtask will provide the feedback loop, ensuring that communication between the two Teams remains open, constant, accurate and relevant. Further, demand estimates and the process whereby they were developed will be reviewed with Team members engaged in Subtasks 4b through 4f (conceptual design and associated cost estimates)





This within-Team check is intended to a) better inform coordination with the Capacity Analysts and b) provide a “second set of eyes” in the expectation that investment in this minimal level of redundancy may pay off in the avoidance of misinterpretations which could potential delay project completion. The Team will ensure that capacity analysts receive timely and appropriate data to permit realistic simulations of likely performance of candidate strategies.

**Subtask 4g Deliverable:**

Technical memorandum that summarizes the capacity issues on proposed Regional Rail System

**SUBTASK 4H – ALTERNATIVE METHODS OF HANDLING LOCAL FREIGHT TRAFFIC**

***Purpose:***

Identify alternative, innovative methods of handling freight traffic; local and long distance on the proposed regional rail system.

***Approach:***

The Team will meet with UP and BNSF and the city of Shafter to explore their inland port options. Topics may include local service planning and requirements, amenability to joint operations including dispatch centers, power sharing, terminal railroad operations, contract operations.

The Team will explore possibility of exurban distribution center to attract trucks away from city center, may possibly move goods into center city by trains perhaps to Port of San Francisco properties or Naval Base. The Team will meet with Caltrans to discuss its regional Strategic Development Plan (SDP) and meet with its New Technology and Research (NT&R) staff to obtain their observations. In addition, the Team will interview politicians, interest groups, academics and government researchers; topics could include demographic drivers, long-term development trends and factors which could influence direction.

Long-term analysis will include the identification of major possible technological, environmental and political developments that could have ramifications on commodity mix and modal preference.

The Team will identify long-term infrastructure needs, and consequent modifications or add-ons to conceptual plans. These may include increased clearance, shifting or expanding rights-of-way up to and including major regional reconfiguration of the rail network, issues respecting geological stability and consequent demands on infrastructure design, the ability to accommodate additional transport facilities on rail rights-of-way, the future of modal connectivity and possible emergence of new modes.



**Subtask 4h Deliverable:**

A technical memorandum will be prepared identifying plausible initiatives that may be implemented. A suggested phasing plan will be included.

**SUBTASK 4I – IMPACT ANALYSIS**

***Purpose:***

To provide detailed ridership estimates by corridor and mode for final evaluation of Regional Rail plan alternatives and to identify the impact of the proposed regional rail system including the high-speed rail corridor from the east on the core regional rail system (BART).

***Approach:***

The Team will obtain the expanded network and land use from Cambridge Systematics (CS) which should be available by January, 2006. For the purpose of the Regional Rail effort, the Team proposes to utilize the ultimate (Year 2050) demand levels; our Team has identified the following potential model scenario alternatives for this long-range viewpoint:

- Base Network – Includes existing rail and highway infrastructure, MTC Regional Transportation Plan projects, and MTC Blueprint Phase 2 projects
- Regional Rail Alternatives – From 3 to 6 plan alternatives combining the most promising service options as defined by the Screening Process in subtask 2.b
- Regional Rail Sensitivity Tests – From 1 to 3 sensitivity tests involving either alternative freight rail operating scenarios or alternative lane use scenarios measured against a selected base network
- High-Speed Rail Sensitivity Tests – For 2 high-speed rail “build” options (south entry, east entry) test the impact of adding high-speed rail to a selected base network

The Team will provide to CS descriptions of the rail and transit services for railroad-based services and regional transit to be included in the enhanced MTC model for the regional rail alternatives.

The Team will extract from the model results tabulations provided by CS and the corridor patronage and will summarize and evaluate the modal share of selected key line segments and boardings/transfers at selected key indicator stations/terminals. The Team will prepare a Ridership Technical Memorandum that will summarize the model results including tables and graphics depicting key findings.



Subsequent to preparation of the ridership estimates, the updated model data files, including the Regional Rail Plan alternatives, would be available for subsequent work by the California High-Speed Rail authority, along with the regional rail ridership technical memorandum.

The Team will analyze the patronage projections for the regional rail system and the increased passenger volume that the regional rail system alternatives will generate on the existing regional transit (BART) core system. Alternatives that make better use of available capacity will be identified. Required system upgrades will be identified for the core system. The Team will coordinate with BART regarding the existing capacity and planned capacity increase that will be incorporated as part of other regional rail expansions.

**Subtask 4i Deliverable:**

Technical Memorandum of the patronage projections for the Regional Rail Plan and the impact analysis on the core BART system.

**SUBTASK 4J – CAPACITY ESTIMATES OF REGIONAL MAINLINES AND PRINCIPAL REGIONAL RAIL STATIONS AND TERMINALS**

***Purpose:***

To provide a capacity analysis for the regional passenger and freight rail lines and the intermodal stations / terminals to assure sufficient track, yard and platform capacity to handle the forecasted patronage and freight.

***Approach:***

The following analytical work will be done for the short-term period, the intermediate-term period and the long-term period.

For each study alternative, the Team will estimate the practical capacity for each major station, terminal and rail line within the study network. This will include analyses of how well the projected traffic levels will be accommodated. The Team will also estimate the theoretical maximum capacities for the peak hour and for a weekday 24-hour day. This will be done, in part, by using various resources and techniques:

- For the “railroad-based services”, the Team will review the RAILSIM network simulations that the Team have processed for Caltrain over the last several years.
- For the “California High-Speed Rail System”, the Team will be addressing every interface with and sharing of the general railroad network as the CHSRA trains approach and are within the study area. These interfaces have been developed to a large extent by the Team for the Bay Area HSR Team and will be modified to



incorporate the east entry of the high-speed rail system being developed under this scope.

Our methodology will also include reviewing all of the *Railroad System Capacity Analysis Studies* performed by Washington Group International.

To assist in this effort, theoretically pathways linking the major components of the stations will be developed, and will be assessed in terms of flow speeds, equipment capacities, and crowd densities. Considerations will also be made on the capacity of the “land side”, including parking, drop-off/pick-up area, and others.

In addition, the Team will be reviewing and applying various line-capacity criteria that the Team and the industry have developed over the years, such as the *Parametric Analysis of Railway Line Capacity* that was prepared for the Federal Railroad Administration.

**Subtask 4j Deliverable:**

A graphical and text description of the study limits that will clearly depict and describe the governing capacity constraints of each station, terminal and line within the study limits.

**SUBTASK 4K – STRATEGIC FLEET PLANNING**

***Purpose:***

Provide a description of existing rolling stock for the existing system. Provide a description of alternative concepts for rolling stock for the proposed regional rail system including various propulsion modes.

***Approach:***

The Team will identify and evaluate alternative concepts for rolling stock that will provide maximum compatibility and interchangeability, and minimize vehicle requirements and associated costs.

The Team will consider each of the proposed regional rail lines individually and as an operating whole and propose appropriate rolling stock alternatives. The Team will coordinate with the electrification task to help select propulsion modes for each of the lines and again as a system whole.

**Subtask 4k Deliverable:**

Technical Memorandum on rolling stock alternatives and potential phasing plan.



## **SUBTASK 4L – CONNECTIVITY PLAN**

### ***Purpose:***

Develop a comprehensive connectivity plan for the regional rail system showing interfaces with other transit systems and modes.

### ***Approach:***

Connectivity will be a major consideration when developing the Initial List of Alternatives in Task 2. The Team will prepare a map showing the existing intermodal connectivity points previously described and locate the new regional rail to create new intermodal connectivity points or connect to these existing intermodal stations. The Team will review the Marin and Sonoma rail services for potential connectivity between themselves and potentially with the East Bay systems when the bridges will get replaced in the long-term future. These physical connectivity points will be coordinated with the land use plan being developed as part of Task 5. The Team will develop a phasing plan for the connectivity points.

The Team will build on the work that is being done by Wilbur Smith Associates (WSA), the effort is to be complete by the end of 2005, as part of the RM2 Transit Connectivity Study. The Team will establish working relationships with them early to facilitate a coordinated study result.

The Team will incorporate the work that is being done at other key intermodal stations; Transbay Terminal, Union City Intermodal Station and the Diridon Station as part of our Silicon Valley Express Station project in San Jose. The Team will also incorporate the work that is being done in Sacramento on the Intermodal facilities for the RT, Capitol Corridor, AMTRAK and CHSRA.

The Team will work with the operations planning tasks to make schedule connectivity a priority along with the communication task for a common information system. In addition, an evaluation of potential fare integration between the various public and private operators will be prepared, in the contexts of enhancements to connectivity for the entire regional rail system. The Team will coordinate these efforts with the governance task for jurisdictional issues.

### ***Subtask 4I Deliverable:***

A plan showing the physical connectivity between the regional rail systems itself and other transit services; MUNI, VTA LRT, Bus and ferry system. A phasing plan will be shown. A written report will be prepared to discuss and present the other connectivity plans identified.



## **SUBTASK 4M – ENVIRONMENTAL SCAN**

### ***Purpose:***

The purpose of this task is to provide “environmental scan” information to provide for an overall comparison of the Regional Rail Alternatives’ potential impacts on major environmental resources. The focus of this subtask will be to identify possible “fatal flaws” for implementation of the regional rail alternatives.

### ***Approach:***

The Team will provide a preliminary assessment of potential environmental impacts associated with each of the Regional Rail System Alternatives. Where potential impacts are common to all alternatives, they will only be generally reviewed and evaluated. The Team’s overall approach to this subtask will be to develop a generalized inventory of critical and relevant environmental resources and identify those impact issues that have potential to delay or affect the viability of any Regional Rail Alternative. Finally, it should be noted that while this environmental scan is explicitly intended for use to address the planning level analysis being prepared for the Regional Rail Study, the Team will assure that Information developed as part of this subtask will be of use for the California High-Speed Rail Program EIR/EIS process.

Using available sources, the Team will develop an inventory of critical environmental resources and issues in the vicinity of the proposed alternatives. These sources include existing environmental documentation prepared for the areas of interest, generalized land use categories (e.g., rural, industrial, suburban, or urban), and where critical, the National Wetland Inventory Maps, Federal Emergency Management Administration floodplain maps, and the California Natural Diversity Data Base. Regional parklands and wildlife refuges that could be affected by the alternatives will also be identified. Existing documentation will be reviewed to identify possible cultural resources of concern for the alternatives.

The general land use categories identified as part of this subtask will be used to discuss possible visual and noise impacts to development adjacent to the rail system alternatives. The Team will identify the potential for impacts to major biological and cultural resources, given that environmental regulations such as “section 4(f)” of the DOT Act or section 404 of the Clean Water Act and the Executive Order on floodplains require a demonstration that there is no prudent and feasible or practicable alternative that will avoid impacts to these types of resources. Providing adequate documentation of screening decisions at this stage of project development will enhance the ability to frame the arguments for no prudent and feasible/practicable alternative when it comes time to prepare environmental documents. Attention will also be given to any apparent “Environmental Justice” effects or disproportionate effects on low income or ethnic minority areas.



The environmental evaluation will include identification of mitigation strategies at the conceptual level. The object of this discussion is to identify any mitigation measures that may add appreciably to project costs, take time to develop, and negotiate, or that require acquisition of land. It would also enable the rail system operators to initiate discussions with regulatory and permitting agencies to establish viable approaches.

The Team will coordinate with MTC and the modeling consultant to determine overall probable reductions in auto and truck vehicular miles associated with each of the Regional Rail Alternatives. This information will be used by the Team to determine the overall likely regional air emission reductions associated with each of the Regional Rail Alternatives.

**Subtask 4m Deliverable:**

Technical Memorandum on Environmental Screening of Regional Rail Alternatives.

**SUBTASK 4N – SUMMARY OF FINAL REGIONAL RAIL PLAN ALTERNATIVES**

***Purpose:***

The development of an integrated Regional Rail Plan that reflects three conditions for High-speed rail alternatives;

- Entry to the Bay Area from the South; two versions
- Entry to the Bay Area from the East over Altamont Pass
- No high-speed rail system

***Approach:***

The Team will integrate the results of the technical studies into the final regional rail plan alternative, and will incorporate the input received from the public outreach program by the project management Team. The Team will synthesize the economic and land use analysis conducted up to this point, providing input and recommendations regarding the specific characteristics of the three Regional Rail Plans that correspond to the three alternative high-speed rail alignments. The Team will provide further detail on the land use, demographic, and economic implications of each alternative and their relationship to the location, type, and timing of facilities proposed. For example, the Team will provide input regarding logical phasing scenarios based on up-dated regional growth forecasts, economic considerations, and other factors.

**Subtask 4n Deliverable:**

A Technical Memorandum summarizing the technical studies and describing the Regional Rail Plan in a written description and a set of engineering plans similar in





concept to what was developed for the Bay Area High-Speed Rail program. The alternatives will reflect the three conditions for the High-Speed Rail alternatives described above.

## **TASK 5: SUPPORT STRATEGIES**

### **SUBTASK 5A – GOVERNANCE AND INSTITUTIONAL STRATEGY**

#### ***Purpose:***

Prepare a governance and institutional strategy to address the issue of the current 27 transit agencies in the Bay Area to balance the need for regional development and local responsiveness.

#### ***Approach:***

A significant component of implementation strategies for the rail plan will be developing recommendations of how regional operators will coordinate, collaborate, or in other ways jointly provide the facilities and operations expected. The Team's approach will be to prepare a governance strategy for implementation and operation of a multi-operator Regional Rail Plan. The strategy will include a feasibility assessment of institutional, functional, and fare-based consolidation opportunities of existing and proposed Bay Area rail services. The strategy will identify opportunities for realization by regional rail operators of operating cost efficiencies derived through collaborative actions, joint facilities and other appropriate methods. The Team will provide examples of successful consolidation strategies being deployed or planned nationally and internationally to inform this discussion, including examples of where a region has moved from multiple agencies to a single governance structure. As a means to obtain this information, surveys of other regional rail organizations and operators (in the United States and abroad) will be conducted.

A series of possible governance scenarios will be developed, and presented to the Project Management Team and other key stakeholders. Based on feedback and input, a recommended phased strategy will be developed. The Team will coordinate with Daniel Iacofano of Moore Iacofano Goltsman (MIG) to facilitate stakeholder discussion and develop rail governance and recommendations.

#### **Subtask 5a Deliverable:**

Technical Memorandum describing a phased approach to an institutional and governance strategy.





## **SUBTASK 5B – RAIL FACILITY RIGHT-OF-WAY ANALYSIS**

### ***Purpose:***

Identify existing and potential rail corridors that could serve the long-term needs of the Regional Rail Plan. Identify an acquisition plan, both financial and institutional, for these right-of-way corridors.

### ***Approach:***

All immediate (5-10 years), intermediate (10-25 years) and future (25-50 years) rights-of-way or connections for the alternative outcomes of the Regional Rail Plan including a category of “endangered” rights-of-way that are either being developed or in danger of being developed will be identified. An analysis and recommendations of a strategy to preserve them for future rail use will be developed.

Potential new bay and delta crossings will be identified to serve the San Francisco Bay area including a potential I-80 corridor connection to the east bay (new Carquinez Bridge crossing), the new Transbay Terminal connection to Capital corridor track in Emeryville and peninsula connections to the east bay (new Dumbarton Rail bridge and San Mateo Bridge crossings).

Rail rights-of-way will be evaluated to serve the intermediate and long term population centers connecting the Cities of Auburn and Roseville north of Sacramento, the San Joaquin Valley on the east and Salinas and Monterey on the UPRR Coast Route south of the bay area.

Rights-of-ways considered will include those required to accommodate rail alignments, stations, multimodal terminals, maintenance facilities and rail yards.

The Team will evaluate the existing and future prospects for available land needed to accommodate rail facilities, including alignments, stations, and support areas. This analysis will be based on short- and long-term market conditions for vacant and developable land within those corridors deemed appropriate for rail facilities. In order to assess the potential risk and cost associated with meeting future land requirements, it will be important to consider factors relevant to both market supply (inventory of available land) and market demand (e.g., land use growth projections). The Team will also provide strategies designed to reduce the risks and costs associated with right-of-way acquisition.

The Team will also evaluate the positive and negative economic impacts associated with the location of rail facilities as part of the right-of-way analysis. On the one hand, rail stations and terminals should be located in areas that maximize opportunities for complimentary development (e.g., transit-oriented development). On the other hand, the visual, sound, or physical impacts associated with rail alignments have potential economic implications that must be considered.



The Team will identify a strategy to permanently and clearly identify these corridors as “rail corridors” so as not to encourage their use for trails that could prohibit their easy conversion back to rail lines. Temporary land uses will be proposed that will facilitate easy conversion to rail use.

**Subtask 5b Deliverable:**

A set of plans clearly identifying the potential ROW corridors along with their approximate width and length. A written report with a brief description of each corridor and a potential temporary use for each. Phasing or a priority acquisition plan will be included.

**SUBTASK 5C: COMPLEMENTARY LAND USE STRATEGY**

**Land Use**

***Purpose:***

This subtask will identify locations on the rail network with potential for accommodating some of the region’s anticipated population and economic growth, develop a range of methods for achieving the above purpose, and identify possible incentives that could encourage land use changes supportive of greater reliance on public transit services.

***Approach:***

To develop this strategy, the Team will take the following steps, based on the analysis and initial conclusions reached in Task 2a:

- Summarize, map and critique current population and employment projections for the 12-county greater Bay Area region affected by the Regional Rail Plan (This region includes the nine-county San Francisco Bay Area together with San Joaquin, Stanislaus and San Benito counties).
- Identify assumptions in these forecasts that could impact future rail ridership.
- Summarize, map and critique outcomes from the 2002 Smart Growth Vision. Identify how objectives and the preferred plan in this Vision relate to the forecasts examined in Step 1 above.
- Map prime agricultural land, natural resources and sensitive open space, as well as areas with significant long-term water and sewer infrastructure capacity limitations in the 12-county greater Bay Area region.
- Describe market forces likely to give rise to transit-oriented development.



- Assess the potential land use implications of alternative rail alignments developed throughout Tasks 2 through 4 in this study.
  - Assess how each alternative alignment would complement or conflict with currently adopted city and county long-range land use policies.
  - Describe how each rail alignment would modify formally adopted State and regional growth forecasts
- Identify a broad array of public-sector policies and regulations that supports transit-oriented development.
  - Regional incentives expanding on MTC's current TLC and HIP programs that would assure that transportation and land use decisions are supportive of each other.
  - Potential State incentives, including changes in tax policy, investment strategies, transit-oriented development programs, etc.
  - Local best practices
- Estimate how various regional rail schemes will change accessibility profiles of corridors and how this in turn will bring about market-driven land use shifts.
  - Address TOD opportunities in terms of major hubs and stations, as well as corridors and subregional travelsheds.
  - Address TOD opportunities in relation to corridors and subregional travelsheds.
- Identify preferred rail alignment and station locations based on the overall objective of promoting compact, mixed-use communities easily accessible to public transportation.

## Economic

### ***Purpose:***

The economic, financial, and policy dimensions of land use all interact to determine the impact, feasibility, and optimal configuration of the transportation facilities. A thorough and integrated analysis of these land use dimensions is an essential component of an effective and responsive Regional Rail Plan.

### ***Approach:***

The Team will assess the implications of the Regional Rail Plan on land use and real estate development within key sub-regions and at particular opportunity sites. Specifically, the Team will estimate how various regional rail schemes will change



accessibility profiles of corridors and how this, in turn, will bring about market-driven land use shifts. For example, the Team will evaluate how the market forces that give rise to transit oriented development are likely to vary by area and across alternative. Conversely, the analysis will consider the potential for the Regional Rail Plan itself to alter market dynamics at a site or local level as well as economic and population trends on a wider-scale.

The Team will identify and assess the broad array of public-sector policies and regulations that support transit-oriented development. These will include regional incentives expanding on MTC's current TLC and HIP programs that would assure that transportation and land use decisions are supportive of each other. In addition, the Team will explore potential State incentives, including changes in tax policy, investment strategies, transit-oriented development programs, etc. Finally, the Team will recommend a set of best practices currently used by various jurisdictions throughout the country. This will involve drawing on the Urban Land Institute's extensive database of effective approaches to creative land use strategies in both the United States and other parts of the world. It will also include an exploration of cutting-edge policies that connect and leverage investment with public policy commitments to transit-supportive land use intensity and capital investment.

**Subtask 5c Deliverable:**

A combined technical memorandum describing the land use and economic impact and policies to support the Regional Rail Plan.

**SUBTASK 5D – REGIONAL RAIL PLAN FUNDING STRATEGY**

***Purpose:***

Ultimately, the Regional Rail Plan must be realistic and achievable from a financial perspective. Although the broad arrange of financial resources necessary to support the Regional Rail Plan over the long-term will not be identified, let alone secured, during the course of this study, the type and scope of facilities proposed should generally match reasonable expectations regarding funding availability.

***Approach:***

The Team will evaluate the range of land-based and local / regional financing mechanisms most appropriate for major, regional serving transportation facilities such as light rail. Although financial mechanisms are likely to differ depending upon the type of facility sought, potential options might include, but not be limited to, tax increment financing, General Obligation bonds, voter approved taxes (e.g., sales tax surcharge), community facility districts (CFDs), impact or user fees, and public-private partnerships (e.g. land lease arrangements). Special consideration will be given to the potential to



leverage the enhanced value conferred on properties that directly benefit from transit facilities and access.

The task will focus on:

- Developing models for analyzing funding strategies
- Researching and estimating funding availability
- Preparing a funding plan for implementing the Regional Rail Plan

**Subtask 5c Deliverable:**

The results of this subtask will be documented in a Technical Memorandum on Funding Strategies.

## **TASK 6: PREPARE DRAFT REGIONAL RAIL PLAN**

### **SUBTASK 6A – PREPARE PLAN OUTLINE**

***Purpose:***

Prepare outline for draft regional rail plan, to allow for approval of report structure and content.

***Approach:***

The Team will prepare an outline and a table of contents for the draft regional rail plan for review and approval. The outline will include an executive summary and will indicate how the results of all the technical memorandums described above will be included. Format of the draft will also be indicated for review and approval.

**Subtask 6a Deliverable:**

Outline of Draft Plan

### **SUBTASK 6B – PREPARE DRAFT PLAN**

***Purpose:***

Prepare draft regional rail plan, to allow for approval of report structure and content.



***Approach:***

Upon approval of the outline the draft regional rail plan will be prepared in accordance with all the review comments.

**Subtask 6b Deliverable:**

Draft Plan

**TASK 7: PREPARE FINAL REGIONAL RAIL PLAN**

***Purpose:***

Prepare final regional rail plan.

***Approach:***

The Team will incorporate into the draft regional rail plan all appropriate comments and edits as directed from the Program management Team. The Team will assist the Program Manager with developing additional material for distribution.

**Task 7 Deliverable:**

Final Plan

## MEMORANDUM

**To:** Regional Rail Steering Committee

**FROM:** Brent Ogden

**DATE:** September 30, 2005

**SUBJECT:** Regional Rail Planning Charrette

**PROJECT No.** 805127x0

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The Earth Tech/Korve Team is proposing to conduct a week-long Planning Charrette in October. The charrette is intended to provide a forum for transportation planning entities, rail services operators, and other interested parties to provide input relative to markets and services to be addressed by the Bay Area Regional Rail Plan. The charrette would supplement activities by the consultant team in developing options for consideration in the initial list of regional rail alternatives and the proposed timing of the event would allow the issues and concepts to be shared through the broader public workshops process as well as through the more narrow stakeholder coordination process that will unfold during Phase 1 of the study leading up to the screening of final alternatives.

The charrette is proposed as a multi-day event that would take place in the Regional Rail Project Office in Oakland. The space will be equipped as a “war room” with maps, flip charts for posting, etc. The desired outcome would be two-fold – partly to assemble information on existing and proposed services and needs, but more importantly to conduct a wide ranging brainstorming session with a focus on the Year 2050 horizon year of the Regional Rail Plan.

The schedule would provide a rolling overview of the regional transportation issues starting with a very wide focus and progressively narrowing down to viewpoints of current operators; this would allow the issues and comments from early-on sessions to be shared in the more defined sessions later in the week:

- The schedule would begin with a “focus group” meeting where organizations with a wide range of interests in long range planning would participate.
- Following this meeting, there would be geographically focused meetings along generally defined corridors on long-range needs and plans.
- Meetings on the third day would include regional passenger operators (including CHSRA) and regional railroad-based operators including commuter/corridor rail as well as freight railroads and the ports.
- The final activity would be a hands-on session with the Project Team, using a summary of all of the previous results provided by the consultant team as a starting out point.

PROPOSED SCHEDULE:

	Morning Session 8:30 am / 11:30 am	Afternoon Session 1:30 am / 4:30 am
Monday Oct 24	Regional Focus Group:  Advisory Group members, Save the Bay, Sierra Club, Train Riders Association of California, Silicon Valley Leadership Group, Contra Costa Council, Bay Area Council, SPUR, Transportation and Land Use Coalition, etc.	Geographic Focus: San Francisco, East Bay and Beyond / Bay Bridge, Route 4 & I-580  Invitees: CMA's / Transportation Commissions including WCCTAC  Counties: San Francisco, Alameda, Contra Costa, San Joaquin, Stanislaus, Merced
Tuesday Oct 25	Geographic Focus: Greater North Bay / US 101 & I-80  Invitees: CMA's / Transportation Commissions and SMART  Counties: Marin, Sonoma, Napa, Solano, Yolo, Sacramento	Geographic Focus: Peninsula and South / US 101  Invitees: Caltrain, CMA's / Transportation Commissions  Counties: San Mateo, Santa Clara, Santa Cruz, San Benito, Monterey
Wednesday Oct 26	Regional Passenger Carriers Focus:  Invitees: California High Speed Rail Authority BART Water Transit Authority	Railroad Services / Freight Focus:  Invitees: Caltrain, ACE, Capitol Corridor, California Division of Rail (San Joaquins), Port of Oakland, Port of Richmond, Port of Benecia, Port of Stockton, UPRR, BNSF
Thursday Oct 27	Consultant Team prepares summary of results	
Friday Oct 28 11:00 am to 2:00 pm	Working Session with Project Management Team	

A packet of explanatory material would be provided along with the charrette invitation to clarify for agencies, operators, and other participants as to which person(s) may wish to attend.

Telephonic follow-up would be conducted by the consultant team to confirm the attendance.



## **Memorandum**

**Date:** 9/30/05  
**To:** Regional Rail Steering Committee  
**From:** Daniel Iacofano and Gail Payne  
**Re:** Round One Meeting Format Plan

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### **Objectives:**

- To inform transportation agencies, cities and counties, and the public of the study intent and scope of the Regional Rail Plan effort.
- To partner with the California High-Speed Rail Authority to collectively meet Bay Area to Central Valley EIR/EIS scoping requirements and Regional Rail Plan outreach plans.
- To engage in visionary thinking and solicit initial input from transportation agencies, cities and counties, and the public as to what the Bay Area rail system could look like in 2050, and more specifically as a first step, what system issues, initial alternatives and screening criteria should be considered as part of the study.

### **Target Audience:**

- Transportation Agencies (CMAs, transit operators, etc.)
- City and County Agencies
- Advocates (environmental, rail, etc.)
- Developers, Environmentalists, etc. involved in dealing with development and land use around rail stations/corridors
- Interested general public

## Meeting Dates, Times and Locations:

### ***Oakland***

**Date:** Tuesday, November 29

**Time:** 3 p.m. to 4 p.m. - open house; 4 p.m. to 5 p.m. - presentation; 5 p.m. to 6 p.m. - break; 6 p.m. to 7 p.m. - open house; 7 p.m. to 8 p.m. - presentation

**Address:** Joseph P. Bort MetroCenter, Larry D. Dahms Auditorium, 101 Eighth Street

**Contact:** Ashley Nguyen, 510.817.5809

**Facilitator:** Daniel Iacofano

**Transit Connections:** BART (Lake Merritt Station); AC Transit (11 from Piedmont or Montclair; 59 or 59A from Montclair; 62 from East or West Oakland; 88 from Berkeley); Amtrak (C.L. Dellums Station at 2nd and Alice Streets)

### ***San Jose***

**Date:** Wednesday, November 30

**Time:** 3 p.m. to 4 p.m. - open house; 4 p.m. to 5 p.m. - presentation; 5 p.m. to 6 p.m. - break; 6 p.m. to 7 p.m. - open house; 7 p.m. to 8 p.m. - presentation

**San Jose Address:** New San Jose City Hall - Council Wing, Community Room W120, 200 East Santa Clara Street

**Contact:** Becky Specher, 408.535.3500, [roomres@sanjoseca.gov](mailto:roomres@sanjoseca.gov)

**Facilitator:** Daniel Iacofano

**Transit Connections:** Santa Clara VTA Trains; Closest Light Rail Station: Santa Clara; VTA Bus Connections: 22, 23, 63, 64, 65, 66, 68, 72, 73, 81, 82, 85, 180, 304, 305, 522, Highway 17 Express and DASH.

### ***San Francisco***

**Date:** Thursday, December 1

**Time:** 3 p.m. to 4 p.m. - open house; 4 p.m. to 5 p.m. - presentation; 5 p.m. to 6 p.m. - break; 6 p.m. to 7 p.m. - open house; 7 p.m. to 8 p.m. - presentation

**Address:** San Francisco Civic Center Complex, Hiram Johnson Building, San Diego Room, 455 Golden Gate Avenue

**Contact:** David Glass, 415.865.7848, 415.865.4205 fax, [David.Glass@jud.ca.gov](mailto:David.Glass@jud.ca.gov)

**Facilitator:** Lou Hexter

**Transit Connections:** BART (Civic Center Station), Muni Metro Light Rail Lines, Muni Bus Routes: 5, 6, 7, 9, 21, 26, 66, 71 and 71L

### ***Livermore***

**Date:** Monday, December 5

**Time:** 3 p.m. to 4 p.m. - open house; 4 p.m. to 5 p.m. - presentation; 5 p.m. to 6 p.m. - break; 6 p.m. to 7 p.m. - open house; 7 p.m. to 8 p.m. - presentation

**Address:** Livermore Public Library in Community Room A and B, 1188 S. Livermore Avenue

**Contact:** Judy McMurray, 925-373-5509; 925-373-5503 fax

**Facilitator:** Joan Chaplick

**Transit Connections:** Wheels Bus Routes 11, 11L and 14

### ***Modesto***

**Date:** Tuesday, December 6

**Time:** 3 p.m. to 4 p.m. - open house; 4 p.m. to 5 p.m. - presentation; 5 p.m. to 6 p.m. - break; 6 p.m. to 7 p.m. - open house; 7 p.m. to 8 p.m. - presentation

**Address:** Double Tree Hotel, 1150 Ninth Street, Modesto, Tel: 209-526-6000 Fax: 209-526-6096

**Contact:** Mike Evanhoe of StanCOG, 925.324.7336

**Facilitator:** Joan Chaplick

**Transit Connections:** Modesto Area Express Routes: 21, 22, 24, 25, 26, 27, 29, 30, 31, 32, 33, 34, 37, 38, 39, 41, 42

### ***Suisun City***

**Date:** Thursday, December 8

**Time:** 3 p.m. to 4 p.m. - open house; 4 p.m. to 5 p.m. - presentation; 5 p.m. to 6 p.m. - break; 6 p.m. to 7 p.m. - open house; 7 p.m. to 8 p.m. - presentation

**Address:** Suisun City Hall, Council Chambers. 701 Civic Center Blvd., Tel: (707) 421-7300, Fax: (707) 421-7366

**Contact:** Janey Bower of Solano Transportation Authority, 707-424-6075

**Facilitator:** Joan Chaplick

**Transit Connections:** Fairfield/Suisun Transit System Route 5

## Event Schedule

**3 – 4 p.m.:  
Open House** MIG staff will welcome meeting participants at the door, where they will be signed in and given meeting packets (contents are listed below). Then they will be directed to move from station to station around the perimeter of the room viewing the different informational displays. PMT and consultant staff will be assigned to the stations to explain displays and answer questions.

Note: MIG is to collect contact information (including email addresses) for future use in notifying individuals of upcoming outreach meetings.

**4 – 5 p.m.:  
Presentation,  
followed by  
Facilitated  
Discussion** At 4:00 p.m., Tom Matoff of LTK will present a 15-minute PowerPoint presentation.

At the end of the presentation, Daniel Iacofano of MIG (or alternative MIG meeting facilitator) will facilitate a 45-minute discussion with participants, giving them an opportunity to comment on the Regional Rail Plan effort and Bay Area to Central Valley EIR/EIS scoping. Specifically, MIG is to solicit input on the following topics:

1. Are there any environmental issues or concerns that should be addressed in the Bay Area to Central Valley EIR/EIS?
2. In thinking about what the Bay Area's rail system could look like in 2050, what rail improvements, expansions or new rail service would you recommend?
3. What evaluation criteria would you suggest we use in screening and evaluating the feasibility of these rail ideas?

MIG will record the comments and questions using a wall graphic as well as on a laptop at the Comment Station (#6).

**5 – 6 p.m.:  
Break** Break between the two repeat segments: open house and presentation.

**6 – 7 p.m.:  
Open House** Repeat Open House format as shown above.

**7 – 8 p.m.:  
Presentation,  
followed by  
Facilitated  
Discussion** Repeat Presentation, Followed by Facilitated Discussion, format as shown above.

## **Meeting Packets:**

- Agenda
- Fact Sheets on Bay Area to Central Valley EIR/EIS and Regional Rail Plan study purpose, scope, and schedule
- Regional Rail Plan process chart
- Comment Form
- Meeting Evaluation Form

## **Stations and Materials Needed:**

**Station 1: Welcome** (sign-in sheet, meeting packet, meeting explanation)

**Station 2: Regional Rail Plan Process** (General description, Project study goals, scope, and schedule)

**Station 3: Regional Rail Networks** (General description, Schematic Maps of existing and planned regional rail network)

**Station 4: Initial Network Alternatives and Screening Criteria** (General description, Schematic maps and proposed rail improvements/extensions/new services and matrix showing the sample evaluation criteria)

**Station 5: Bay Area to Central Valley EIR/EIS** (General description, Schematic Maps of Preferred Alignments and Station Locations from Final EIR/EIS for Proposed California High-Speed Train System, schematic maps of Bay Area High-Speed Rail entries over Pacheco Pass and Altamont Pass, Description of Bay Area to Central Valley EIR/EIS and environmental issues to be evaluated)

**Station 6: Comment Station** (MIG with a laptop available will record any comments by participants who prefer one-on-one comment option or extra comment cards for participants to fill in and submit to MIG)

**Note:** Each station will have signs stating station name and representatives there to explain station. Each representative will be provided with a script to follow for specific questions. The station representatives will encourage the participants to write comments on the comment cards and return them to Station 1. A separate table will be set for refreshments (coffee, bottled water, snacks).

## Proposed Evaluation Methods for Scoping Meetings & Outreach

**Objective** Determine the effectiveness of the outreach effort and the success of the meetings.

**Strategy:** Distribute evaluation forms in the meeting packets at the Project Outreach Meetings.

**Measurables:** Regional distribution of meeting participants  
Organizational affiliation of participants  
Satisfaction ratings  
“How did you hear about the meeting?” data  
Number of meeting participants